DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
690 Walnut Ave.St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-022956
Date Inspected: 21-Apr-2011

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 700
OSM Departure Time: 1730
Location: Job Site

CWI Name:	Fred Von Hoff and John Pagliero			**CWI Present:**	☑ Yes	☐ No	
Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☐ Yes	☑ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: Orthotropic Box Girder

Summary of Items Observed:

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At OBG 10E/11E side plate ‘E2’ (4677mm to 5277mm) inside, QA randomly observed ABF/JV qualified welder Jorge Lopez continuing to perform fill pass to cover pass welding on the Complete Joint Penetration (CJP) splice butt joint where the track mounted Bug-o FCAW welder nozzle holder has limited access. The welder was observed manually welding in the 3G (vertical) position utilizing a Shielded Metal Arc Welding (SMAW) with 1/8” diameter E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1040B. The joint being welded has a single V-groove butt joint with steel backing bar. During welding, ABF Quality Control (QC) John Pagliero was noted monitoring the welding parameters of the welder. At the end of the shift, cover pass SMAW welding at location mentioned above was completed. After the completion of the side plate just mentioned, the welder also welded 120mm long on the bottom plate ‘D2’ and joined the transition weld to the side plate ‘E2’. This was also completed during the shift and the welder started flush grinding the weld cover reinforcement until the end of the shift.

At OBG 10E/11E side plate ‘C1’ (0mm to 1000mm) inside, QA randomly observed ABF/JV qualified welder Fred Kaddu continuing to perform root pass to fill pass welding on the Complete Joint Penetration (CJP) splice butt joint where the track mounted Bug-o FCAW welder nozzle holder has limited access. The welder was observed manually welding in the 3G (vertical) position utilizing a Shielded Metal Arc Welding (SMAW) with 1/8” diameter E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification (WPS)

ABF-WPS-D15-1040B. The joint being welded has a single V-groove butt joint with steel backing bar. During welding, ABF Quality Control (QC) John Pagliero was noted monitoring the welding parameters of the welder. At the end of the shift, fill pass SMAW welding at location mentioned was still continuing and should remain tomorrow.

At OBG 7E-PP56-E3-#1 & 3 lifting lug access hole to top deck plate outside – ABF welder Jason Collins was observed 1G SMAW welding root pass to cover pass on the infill plate to top deck plate butt joints. The welder was noted using 1/8" and 5/32" diameter E7018H4R electrode implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1070. Prior welding, ABF QC Fred Von Hoff was observed inspecting the fit up of the butt joints. QA verified the fit up alignment of the two access holes which deemed acceptable to the contract requirements. During welding, ABF QC Fred Von Hoff was noted monitoring the welder's welding parameters. During the shift, cover pass welding on the top side location of the two butt joints was completed and the welder has moved to #2 & 4 access holes of the same location. The welder performed fit up on the access hole #2 and QC has checked the alignment as usual. The welder performed the root pass to fill pass until the end of the shift.

At West B-C corner, upper splice plate: This QA Inspector randomly observed ABF welding personnel Salvador Sandoval (#2202) continuing to perform production welding on the bottom half of the splice plate using the self shielded Flux Cored Arc Welding (FCAW) process. This QA Inspector observed a propane gas torch was being used to preheat areas prior to welding. This QA Inspector observed QC Inspector John Pagliero using an infra red temperature gauge to verify the preheat temperature of more than 300°F. This QA Inspector performed a verification of the welding parameters and observed 260 amperes and 21.4 volts with a travel speed of 95 mm per minute with equivalent heat input of 3.51 Kj per mm. The welding appeared to comply with Welding Procedure Specification (WPS) ABF-WPS-D15-F2200-3. The welding of the vertical fillet welds was still continuing and should remain tomorrow. Before the end of the shift, at around 1630hours, the welder has stopped fillet welding and ABF personnel were noted covering the weld with heater blanket in preparation for the three hours holding of preheat temperature of more than 300°F as required. ABF personnel were using Miller Proheat 35 Induction Heating System to hold the preheat that was programmed to shut off after three hours.

At Northwest C-D corner, lower splice plate: This QA Inspector randomly observed ABF welding personnel Gil Peralta continuing to perform production welding on the top half of the splice plate using the self shielded Flux Cored Arc Welding (FCAW) process. This QA Inspector observed a propane gas torch was being used to preheat areas prior to welding. This QA Inspector observed QC Inspector John Pagliero using an infra red temperature gauge to verify the preheat temperature of more than 300°F. This QA Inspector performed a verification of the welding parameters and observed 240 amperes and 20.0 volts with a travel speed of 95 mm per minute with equivalent heat input of 3.03 Kj per mm. The welding appeared to comply with Welding Procedure Specification (WPS) ABF-WPS-D15-F2200-3. The welding of the vertical fillet welds was still continuing and should remain tomorrow. Before the end of the shift, at around 1630hours, the welder has stopped fillet welding and ABF personnel were noted covering the weld with heater blanket in preparation for the three hours holding of preheat temperature of more than 300°F as required. ABF personnel were using Miller Proheat 35 Induction Heating System to hold the preheat that was programmed to shut off after three hours.

WELDING INSPECTION REPORT

(Continued Page 3 of 3)

Summary of Conversations:

The preheat of the plates being fillet welded at Tower West shaft elevation 83meters was changed from 95 degree Fahrenheit step down to a steady 300 °F for three hours holding.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Nina Choy 510-385-5910, who represents the Office of Structural Materials for your project.

Inspected By:	Lizardo,Joselito	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer